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FAILURE OF VACCINATION.

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An Enquiry

INTO

THE CAUSES OF FAILURE

IN

VACCINATION,

WITH

SUGGESTIONS RELATIVE TO THE MEANS OF ENSURING

Its full Protective Influence.

BY CHARLES SEVERN, M.D.

LONDON:

JOSEPH MASTERS, 33, ALDERSGATE STREET.

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THE prevalence of small pox in the metropolis, and its undoubted occurrence in many instances after vaccination, has excited considerable alarm, and led some persons to doubt the protective influence of cow-pox altogether ; yet it must be obvious, on a little consideration, that the fact of the vaccine disease affording a real protection has rather been confirmed than weakened by the experience accumulated on the subject, since the time of Jenner and his associates, whose expectations, as far as could be reasonably expected, have been amply realized. The deterioration of that disease by its transit through the bodies of human beings, in whom

it was not natural, might be expected, and is no argument against the security afforded by the perfect and original disease.

Some have supposed that the vaccine influence would permanently defend the human constitution from this loathsome and fatal pestilence, under all the circumstances by which its influence might be modified, which has been proved to be an erroneous opinion ; further experience and more extensive observations were requisite before this conclusion could with propriety and certainty be drawn. It will indeed, even with the lymph usually employed, prevent the occurrence of small-pox in by far the majority of constitutions, but not in all ; yet we may safely affirm that of those who have been vaccinated, by far the greater number of individuals escape small-pox altogether, and that of those who do not escape, by far the majority have the disease in a very mild form.

Personal experience is inadequate to furnish sufficient evidence of the merits and efficacy of vaccination, and a reference to the bills of mortality is perhaps the best means of ascertaining its protective influence. The deaths in

London from small-pox in 1771 were 2,567; and in 1781, 3,500, a far greater number than at any period subsequent to the discovery of vaccination, although the population has more than doubled itself since. In the first twenty-five years of the present century, and subsequent to the introduction of vaccination, the number of patients admitted into the Small-pox Hospital was 3,743, and the deaths 1,118; while the admissions in the preceding quarter of a century, or from 1775 to 1800, were 7,017, and the deaths 2,277 more than double the number; and hence, when we consider the vast increase of the population of London since the introduction of vaccination, it will be evident that the danger and fatality of small-pox have been most clearly diminished. Even should it appear, after careful and extended inquiries, that vaccination fails, in some instances, to protect the constitution when the utmost pains are taken to secure its genuine influence, it would be highly absurd and unreasonable to neglect its adoption because it may not have fulfilled all the unreasonable expectations which may have been formed respecting it. If the principle were

adopted, that no operation should be performed on the human body which was liable to occasional failure, what remedy would be left for us to administer, and what surgical assistance could we offer to our patients? The probable proportion of failures in protecting the human constitution does not amount to more than six in 3000 ; and supposing, for the sake of argument, that one vaccinated individual out of 500 remains liable to small-pox infection, and if these individuals have the disease in an unmitigated form, the proportion of deaths would be one in six, the worst result would therefore be, that one in every 3000 individuals vaccinated would die. Even, according to this calculation, the protection afforded by vaccine inoculation possesses still great advantages over inoculated small-pox, in the proportion of more than ten to one, since one at least, out of every 250 (according to Dr. Willan) of those who receive the small-pox by inoculation, falls a victim to that disease. These circumstances being considered, it will be evident that he who, with the ample proofs of the efficacy of vaccination, persists for a paltry fee in inoculating for small-pox, if his

patient die, is undoubtedly guilty, if not in a criminal court, yet in *foro conscientiae*, of the crime of murder. Whether he die or not the same charge would apply, for as the inoculated small-pox produces the natural, and spreads infection by a thousand avenues, and each contagion becomes a fresh focus of other contagions, a weak and interested compliance with the prejudices of one individual becomes thus the cause of the destruction of many. Independent of immediate danger to life, the power of small-pox in rousing up scrophula in all its destructive varieties, and leaving its victims afflicted with ophthalmia, the disorganization of the eyes, and permanent and incurable blindness is well known, none of which calamities has ever resulted from vaccination, so that in its remote effects upon the constitution it has infinitely the advantage. To this let us add that while, with the cow-pox, the practitioner affects only his patient, he who inoculates with small-pox diffuses misery and death far beyond the limits of his operating; and that, in the one case, he is risking the dissemination of a loathsome and mortal disease throughout his

neighbourhood, while, in the other, he is labouring for the extermination of that pestilence from among mankind. Notwithstanding these considerations, there still lurks in the minds of those who have witnessed, or heard of occasional failures, a prejudice against vaccination, in compliance with which several instances have come to my knowledge of inoculation with small pox; and though, previous to the discovery of vaccination, the fearful disease would have diffused around its desolating influence and depopulated the whole neighbourhood, few instances of small-pox from contagion have yet occurred. The dread and horror excited by this disease from the earliest ages is curiously illustrated by a prayer of the Anglo-Saxon æra, preserved among the Harleian Manuscripts at the British Museum, which is as follows:—

“ In nomine Patris, et Filii, et Spiritus sancti, Amen † in adiutorium sit Salvator noster † Dominus cœli;—audi preces famulorum famularumque, Domine Jhesu Christe † atque peto angelorum millia, ut me † salvent, ac defendant doloris igniculo et potestate *Variolæ*, ac protegat mortis a periculo: tuas, Jhesu

Christe ! aures tuas nobis inclina.”—Bibl. Harl. No. 585. p. 202.

As small pox is kept up solely by infection, it is highly probable that, but for the circumstance of its having been disseminated by interested persons, it would now be known in England only as matter of history ; and that the most certain method of extinguishing it is to render the protection afforded by vaccination as secure as possible.

In considering this subject I have been led to the opinion that in the transmission of lymph taken from a graminivorous animal through a long series of thousands of human constitutions, and at a distance of so long a period from the original source, it may have lost some of its properties, acquired others, or become so modi-

\* In the name of the Father, and of the Son, and of the Holy Spirit, Amen.† May our Saviour be our help, † Lord of Heaven ! Hear the prayers of thy man servants and maid servants, Lord Jesus Christ ! † and I beseech thousands of angels that they may save me, † and preserve me from the intensity of pain and from the power of the small-pox, and protect me from the danger of death. Jesus Christ, incline thine ear towards us .†

fied as to afford a less perfect protection than when taken immediately from the animal ; and, added to this, there may be constitutions so peculiar, that small-pox inoculation itself, with all its dangers and disadvantages, would fail to protect. To avoid the degeneracies to which all the arrangements and products of animal organization are peculiarly liable when detached from the circumstances and situations in which they are formed, it is, I think, unreasonable to place unlimited confidence on lymph already transmitted through a long series of human beings ; the infinitely varied influence of constitution and temperament may, and probably does, affect the power on which its preserving efficacy depends.

A recurrence to the cow as the genuine source for fresh and unchanged lymph would, in all probability, afford the best and most perfect security. The progressive deterioration of vaccine influence was wholly overlooked by its first discoverers, and is not admitted to have taken place by many practitioners at the present day—who argue, that because small-pox possesses the same degree of virulence as in former ages, and

produces the same destructive ravages, except when modified by the influence of vaccination,—vaccination itself has undergone no change; forgetting that small-pox remains in the human constitution wherein it is naturally developed, it therefore has undergone no alteration, and lost none of its virulence in the last 200 years. If small-pox were communicated to another species of animal, and, after being transmitted through a series of 70,000 of them in descent, were then found to possess all its original properties, and manifest precisely the same appearances, the cases would then be similar, and the inference just; but as the two diseases exist at present, none can be more perfectly distinct in their origin, nature, circumstances, and peculiarities, and, consequently, no just inference can possibly be drawn from a comparison between them. To render the circumstances analogous it would be necessary to inoculate 70,000 cows in descent with small-pox matter, and to wait forty years for the result—the cases will then be parallel, but at present there is no analogy between them whatever. Indeed all analogy seems to be in favour of the progressive deteri-

oration;—a plant indigenous, and thriving in one soil and climate, will inevitably alter, and often dwindle away and perish when removed from its original situation and transplanted in another foreign to it; and, if it retain existence at all, by a law which appears universal, it becomes changed by the novel circumstances in which it is placed, and the unaccustomed influences to which it is exposed, from which it was in its original situation wholly exempt.

The different organization of different animals may very naturally be expected to cause differences in the results of morbid actions peculiar to each respective species, when transferred from one species to another, as is, I think, exemplified in the vaccine disease. If this opinion be correct the degree of change and deterioration would naturally be in proportion to the length of series of that species to which it had been transferred, from the source whence it originally emanated. This is precisely the case with vaccination, the preserving influence of which appears to have been considerably greater at its first introduction, and within the first five or six years after, than it now is; and

the majority of those who have suffered small-pox subsequent to vaccination have been chiefly young persons, or those who have been subjected to the process within the last five or ten years. In fact, during the first five years of its general adoption, while the lymph retained its full and unaltered properties, unmodified by the influence of thousands of human constitutions, cases of failure were so rare, that, in a report by Dr. Pearson, July 15, 1806, read at the Board of the Vaccine Institution, he stated that two instances only of alleged failure occurred during the years 1800, 1801, 1802, 1803, 1804, and 1805, and during those years vaccination was far more commonly practised by individuals out of the profession, who could not be supposed to possess the power of discriminating and remedying other disorders which might interfere with, and render it nugatory. The venerable and eccentric Rowland Hill, and many dissenting ministers (who have always been distinguished for their zeal in every work of benevolence) vaccinated thousands and tens of thousands, while at the present day, when the practice of vaccination is almost, if not exclu-

sively, confined to educated medical practitioners, its failures have become far more numerous and remarkable. These gentlemen have the best opportunities of ascertaining and ensuring the regularity and genuineness of the vesicle ; yet, is there one engaged in practice, however limited, who has not witnessed repeated instances wherein it has failed to afford the expected security ? There are, consequently, no grounds for attributing these failures to any want of discrimination in those who are now engaged in the practice of vaccination, who are, with scarcely a single exception, educated and well-informed practitioners of medicine and surgery. It will appear from these considerations that the preserving efficacy of vaccination was at its commencement far more general, and more perfect than at the present day ; and that it has gradually undergone a diminution, not, indeed, of vital consequence, as it will usually obviate the fatal effects of the most fearful scourge of former generations, and render it a comparatively trifling malady. If the explanation offered as to the degeneracy of vaccine virus be correct, it is obviously our duty to ren-

der the protection afforded as secure and lasting as it was when Jenner first brought it into notice, by procuring lymph immediately from the animal, using only that which is recent, and which has not been exposed to the modifying influence of a long series of human constitutions. This I have at length, after much delay and many disappointments, succeeded in obtaining, and shall be happy to vaccinate gratuitously with the lymph. If the opinions expressed be correct, we cannot but be justified, in a matter of such great importance, in adopting that mode of practice which seems best calculated to eradicate the disease, for which it provides so safe and efficacious a substitute ; and if there remain any persons who disgrace the profession, and humanity itself, by disseminating a pestilence which formerly surpassed all others in virulence and devastation, I cannot but hope that, by a legislative enactment, they will be rendered liable to punishment for their offence, for which ignorance should not be admitted either as an excuse or palliation. There are diseases of a contagious nature which, if not stopped in their dire career, would long since have depopulated

the globe, and there would not have been a human countenance left upon the earth ; the memory of man would have perished ages ago, or only have been preserved in the rottenness of the sepulchre, had not Providence, in its wisdom, discovered to time and science the art of healing, and the prevention of disease. To reject or pervert these discoveries is folly and madness, to be equalled alone by that desolating depravity of mind which, for an insignificant fee, would spread a most fatal pestilence far and wide, despoil nature of her fairest and best works, render the world one great hospital, and destroy more lives than all the wars, and all their associated calamities have been able to do. In fact small-pox is one of those dire diseases which, without being fostered and favoured by the faculty, is quite able, of itself, to reduce population within the due bounds of subsistence, and quiet all the alarms of the Malthusians, lest the guests at nature's table should become too numerous for the feast.



